§ 98.58 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart F—Aluminum Production

§ 98.60 Definition of the source category.

(a) A primary aluminum production facility manufactures primary aluminum using the Hall-Héroult manufacturing process. The primary aluminum manufacturing process comprises the following operations:
   (1) Electrolysis in prebake and Söderberg cells.
   (2) Anode baking for prebake cells.
(b) This source category does not include experimental cells or research and development process units.

§ 98.61 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an aluminum production process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.62 GHGs to report.

You must report:
   (a) Perfluoromethane (CF$_4$), and perfluoroethane (C$_2$F$_6$) emissions from anode effects in all prebake and Söderberg electrolysis cells.
   (b) CO$_2$ emissions from anode consumption during electrolysis in all prebake and Söderberg electrolysis cells.
   (c) CO$_2$ emissions from on-site anode baking.
   (d) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO$_2$, N$_2$O, and CH$_4$ emissions from each stationary fuel combustion unit by following the requirements of subpart C.


§ 98.63 Calculating GHG emissions.

(a) The annual value of each PFC compound (CF$_4$, C$_2$F$_6$) shall be estimated from the sum of monthly values using Equation F–1 of this section:

\[ E_{PFC} = \sum_{m=1}^{m=12} E_m \]  
(Eq. F-1)

Where:

\[ E_{PFC} = \text{Annual emissions of each PFC compound from aluminum production (metric tons PFC).} \]
\[ E_m = \text{Emissions of the individual PFC compound from aluminum production for the month “m” (metric tons PFC).} \]

(b) Use Equation F–2 of this section to estimate CF$_4$ emissions from anode effect duration or Equation F–3 of this section to estimate CF$_4$ emissions from overvoltage, and use Equation F–4 of this section to estimate C$_2$F$_6$ emissions from anode effects from each prebake and Söderberg electrolysis cell.

\[ E_{CF4} = S_{CF4} \times AEM \times MP \times 0.001 \]  
(Eq. F-2)

Where:

\[ E_{CF4} = \text{Monthly CF}_4 \text{ emissions from aluminum production (metric tons CF}_4). \]
\[ S_{CF4} = \text{The slope coefficient ((kg CF}_4/\text{metric ton Al})/(AE-Mins/cell-day)). \]
\[ AEM = \text{The anode effect minutes per cell-day (AE-Mins/cell-day).} \]
\[ MP = \text{Metal production (metric tons Al), where AEM and MP are calculated monthly.} \]

\[ E_{CF4} = EF_{CF4} \times MP \times 0.001 \]  
(Eq. F-3)

Where:

\[ E_{CF4} = \text{Monthly CF}_4 \text{ emissions from aluminum production (metric tons CF}_4). \]
\[ EF_{CF4} = \text{The overvoltage emission factor (kg CF}_4/\text{metric ton Al)).} \]
\[ MP = \text{Metal production (metric tons Al), where MP is calculated monthly.} \]